

# **2014 Missouri Wild Turkey Brood Survey Results**

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The Missouri Department of Conservation has been conducting a wild turkey brood survey annually since 1959. During the survey, Department staff and citizen volunteers record observations of hens, poults, and gobblers during June, July, and August. Data are collected at the county-level and analyzed by Turkey Productivity Region (Figure 1), which represent counties grouped by similar land cover composition. In 2014, ~70,000 turkeys were observed during the 3-month survey, including over 4,500 broods (Table 1).

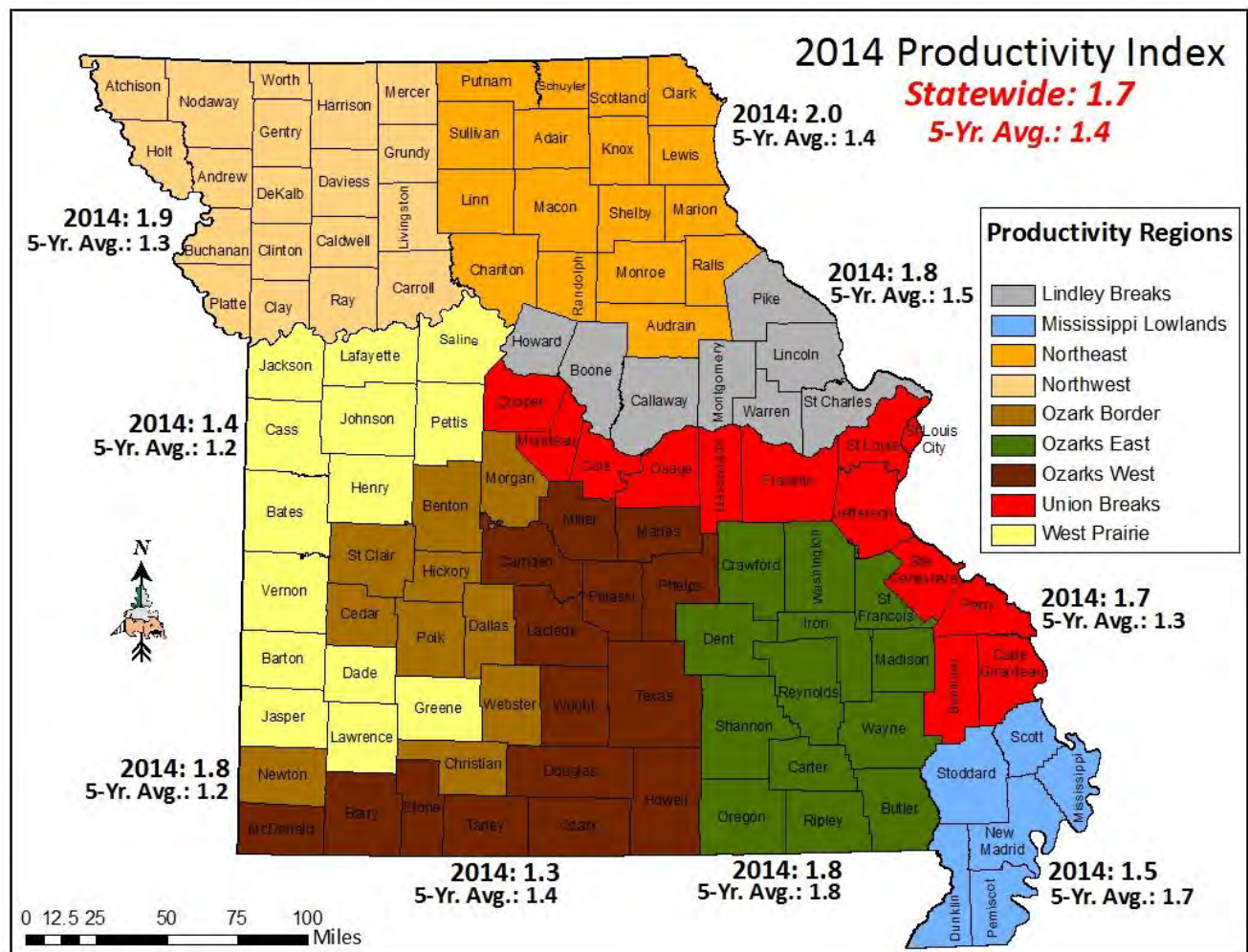
At the statewide scale, 45% of hens were observed with a brood, up from 37% in 2013, suggesting higher nest success this year. The percentage of hens observed with a brood ranged from 38% in the Ozarks West Region to 51% in the Lindley Breaks Region (Table 2). The average number of poults per brood was 4.4, up from 4.1 in 2013, suggesting slightly higher poult survival. The average number of poults per brood ranged from 4.3 in the Lindley Breaks, Mississippi Lowlands, and West Prairie Regions to 4.9 in the Ozark Border Region (Table 2).

The 2014 statewide poult-to-hen ratio (PHR) of 1.7 is 31% higher than the 2013 ratio and 21% and 26% higher than the previous 5 and 10-year statewide averages, respectively; this year's PHR was identical to the previous 20-year average (Table 3). PHRs in 2014 ranged from 1.3 in the Ozarks West Region to 2.0 in the Northeast Region (Figure 1, Table 3). Compared to the previous 10-year average, production was up in all regions except the Ozarks West and Mississippi Lowlands (Figure 1, Table 3). North of the Missouri River, PHRs ranged from 1.8 in the Lindley Breaks Region to 2.0 in the Northeast Region (Figure 1, Table 3).

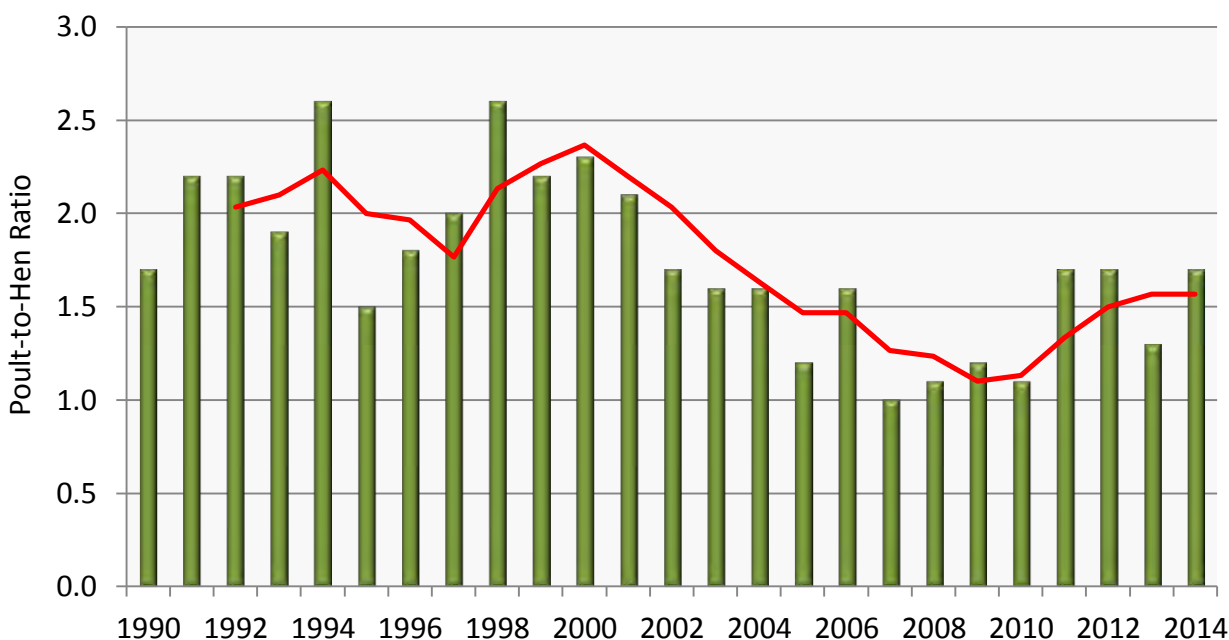
Prior to 2011, Missouri's wild turkey population had experienced four consecutive years of poor production characterized by lower nest success and poult survival, and an average PHR of 1.1. In contrast, the average PHR during the past four years is 1.6, a 45% increase. Particularly encouraging this year is an improvement in production in the Northeast and Northwest Regions, which were most affected by the downturn in turkey production that began in the early 2000s. Although turkey production in recent years has not reached the levels observed during the late 1990s and early 2000s, it is encouraging to see an increasing trend in PHRs during the last several years (Figure 2).

A good turkey hatch throughout much of the state is certainly great news for fall turkey hunting enthusiasts. Fall hunting provides a great opportunity to pursue wild turkeys in the setting of Missouri's beautiful fall woods. Relatively few people fall turkey hunt in the Show-Me State,

which means that fall turkey hunters often find they have the woods to themselves. In 2013, 14,898 hunters purchased fall firearms turkey permits, compared to the 110,636 permits purchased for the 2014 spring season. During the past 5 years, fall firearms turkey harvests in Missouri have ranged from ~6,000-8,500 compared to ~42,200-47,600 during the spring seasons.



**Figure 1. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region. Data were obtained during the 2014 brood survey and are compared to the previous 5-year averages. Index calculations do not include observations of >2 hens per brood.**



**Figure 2. Statewide wild turkey poult-to-hen ratios in Missouri based on observations during the Missouri Department of Conservation's Wild Turkey Brood Survey, 1990-2014. Red line represents 3-year moving average.**

**Table 1. Wild turkey observations by Turkey Productivity Region (Figure 1). Data were obtained during Missouri's Wild Turkey Brood Survey, 2014.**

Productivity Region	Hens w/ Broods	Hens w/o Broods	Total Hens	Poults	Broods	Gobblers
Lindley Breaks	968	944	1,912	4,129	520	1,026
Mississippi Lowlands	87	111	198	370	47	114
Northeast	952	1,126	2,078	4,599	564	1,544
Northwest	609	717	1,326	2,812	351	1,143
Ozark Border	1,162	1,476	2,638	5,659	612	1,867
Ozarks East	691	924	1,615	3,172	397	818
Ozarks West	1,059	1,723	2,782	4,748	528	1,701
Union Breaks	1,845	2,095	3,940	8,273	990	2,221
West Prairie	934	1,342	2,276	4,048	464	2,146
<b>Statewide<sup>a</sup></b>	<b>8,696</b>	<b>10,514</b>	<b>19,210</b>	<b>37,924</b>	<b>4,531</b>	<b>12,633</b>

<sup>a</sup> Includes observations in which county was not recorded on survey card.

**Table 2. Survey data by Turkey Productivity Region (Figure 1), obtained during Missouri's Wild Turkey Brood Survey, 2014.**

<b>Productivity Region</b>	<b>% Hens w/ Poults</b>	<b>Average Brood Size</b>	<b>Poult-to-Hen Ratio<sup>b</sup></b>	<b>Gobbler-to-Hen Ratio</b>
Lindley Breaks	51%	4.3	1.8	0.54
Mississippi Lowlands	44%	4.3	1.5	0.58
Northeast	46%	4.8	2.0	0.74
Northwest	46%	4.6	1.9	0.86
Ozark Border	44%	4.9	1.8	0.71
Ozarks East	43%	4.6	1.8	0.51
Ozarks West	38%	4.5	1.3	0.61
Union Breaks	47%	4.5	1.7	0.56
West Prairie	41%	4.3	1.4	0.94
<b>Statewide<sup>a</sup></b>	<b>45%</b>	<b>4.4</b>	<b>1.7</b>	<b>0.66</b>

<sup>a</sup> Includes observations in which county was not recorded on survey card.

<sup>b</sup> Does not include observations of >2 hens per brood.

**Table 3. Index (poult-to-hen ratio) of Missouri wild turkey production by Turkey Productivity Region (Figure 1). Data were obtained during the 2014 Wild Turkey Brood Survey and are compared to intervals from previous years.**

<b>Productivity Region</b>	<b>2014 Index<sup>a</sup></b>	<b>1-year (2013) Change</b>	<b>5-year (2009-2013) Change</b>	<b>10-year (2004-2013) Change</b>	<b>20-year (1994-2013) Change</b>
Lindley Breaks	1.8	+50%	+18%	+28%	-3%
Mississippi Lowlands	1.5	+150%	-11%	-18%	-28%
Northeast	2.0	+43%	+45%	+54%	+22%
Northwest	1.9	+90%	+51%	+46%	+4%
Ozark Border	1.8	+80%	+48%	+49%	+10%
Ozarks East	1.8	+6%	-1%	+4%	-8%
Ozarks West	1.3	-13%	-6%	-2%	-20%
Union Breaks	1.7	+42%	+27%	+25%	+4%
West Prairie	1.4	+40%	+15%	+25%	-16%
<b>Statewide</b>	<b>1.7</b>	<b>+31%</b>	<b>+21%</b>	<b>+26%</b>	<b>Same as Avg.</b>

<sup>a</sup> Does not include observations of >2 hens per brood.